

OPTIMALISASI MORFOLOGI, KANDUNGAN NUTRIEN, TANIN DAN ALKALOID  
TANAMAN KATUK (*Sauropus androgynus* (L.) Merr)  
MELALUI PEMANFAATAN ASAM GIBERELAT

INTISARI

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21/490464/PPT/01203

Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi umur setek Katuk (*Sauropus androgynus* (L.) Merr) dan level konsentrasi asam giberelat ( $GA_3$ ) terhadap morfologi tanaman katuk 12 minggu setelah tanam (MST), kandungan nutrien serta kandungan tanin dan alkaloid. Penelitian ini menggunakan Rancangan Acak Lengkap pola faktorial dengan dua faktor. Faktor pertama ialah umur setek, terdiri dari umur setek tiga bulan dan enam bulan, kemudian faktor kedua ialah variasi konsentrasi asam giberelat (kontrol atau 0, 50, 100, 150, 200, 250 ppm). Setiap perlakuan dikombinasikan sehingga terdapat 12 kombinasi perlakuan, setiap perlakuan diulang sebanyak delapan kali sehingga terdapat 96 satuan percobaan. Hasil penelitian menunjukkan bahwa pada indikator morfologi tanaman faktor  $GA_3$  berpengaruh signifikan ( $P < 0,05$ ) dalam peningkatan jumlah daun dan jumlah tangkai, Sedangkan umur setek berpengaruh signifikan pada jumlah tunas, jumlah daun, lebar daun, dan luas daun. Akan tetapi, kedua faktor perlakuan berinteraksi signifikan ( $P < 0,05$ ) dalam meningkatkan kandungan bahan kering, protein kasar, lemak kasar, dan serat kasar. Sedangkan, bahan organik yang berpengaruh ialah faktor umur setek. Kedua faktor perlakuan tidak berpengaruh terhadap kadar tanin, namun kadar alkaloid terdapat pengaruh yang signifikan berdasar faktor umur setek. Pemberian level konsentrasi asam giberelat 100 ppm pada bahan setek tiga bulan menunjukkan peningkatan kadar protein dibanding kombinasi perlakuan lainnya, lemak kasar, serta kadar serat kasar yang dihasilkan tidak berbeda secara nyata dengan kontrol. Sehingga dapat disimpulkan bahwa, pemanfaatan asam giberelat untuk optimalisasi kandungan nutrien tanaman katuk dengan menggunakan umur bahan setek tiga bulan dengan kombinasi hormon  $GA_3$  100 ppm.

**Kata kunci:** Alkaloid, Asam giberelat, Katuk, Nutrien, Tanin.

OPTIMIZATION OF MORPHOLOGY, NUTRIENT CONTENT, TANNINS AND  
ALKALOIDS OF KATUK PLANT (*Sauropus androgynus* (L.) Merr)  
THROUGH THE UTILIZATION OF GIBBERELIC ACID

**ABSTRACT**

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This research aims to determine the effect of a combination of Katuk (*Sauropus androgynus* (L.) Merr) cutting age and gibberellic acid (GA<sub>3</sub>) concentration levels on the morphology of Katuk plants 12 weeks after planting, nutrient content, as well as tannin and alkaloid content. The study utilized a Completely Randomized Factorial Design with two factors. The first factor was the cutting age, comprising three and six-month-old cuttings. The second factor involved variations in gibberellic acid concentration (50, 100, 150, 200, 250 ppm) and control (0). Each treatment was combined and resulting in 12 treatment combinations, repeated eight times for a total of 96 experimental units. The results showed that in plant morphological indicators, the GA<sub>3</sub> factor had a significant effect ( $P < 0,05$ ) in increasing the number of leaves and the number of stalks, while the age of cuttings had a significant effect on the number of shoots, number of leaves, leaf width, and leaf area. On the other hand, the two treatment factors interacted significantly ( $P < 0,01$ ) in increasing the content of dry matter, crude protein, crude fat and crude fiber, but in organic matter, the age of cuttings had a significant effect. Both treatment factors had no effect on tannin content, however alkaloid content had a significant effect based on the age of the cuttings. The application of 100 ppm gibberellic acid on three-month cuttings material indicated an increase in protein content compared to other treatment combinations, crude fat, and crude fiber levels produced were not significantly different from the control. Consequently, it can be concluded that, the utilization of gibberellic acid to optimize the nutrient content of katuk plants is most effective when employing three month old cuttings with a combination of 100 ppm GA<sub>3</sub> hormone.

**Keywords:** Alkaloid, Gibberellic acid, Katuk, Nutrient, Tannin